**Review Quiz**

1. Which of the following is incorrect?
   * 1. Tryptophan is a non-polar amino acid with the abbreviation Trp.
     2. Asparagine is an uncharged polar amino acid with the abbreviation Asp.
     3. Lysine is one of the essential amino acids.
     4. Proline has a ring structure
2. The structure that has four carbon rings is best known as \_\_\_\_\_\_\_.
   * 1. Glycerol
     2. A hydro carbon chain
     3. Steroid
     4. Polysaccharide
3. Which one of the following is true about proteins?
   * 1. All proteins are charged.
     2. The tertiary structure is most likely a folded β – pleated sheet or a spiral α- helix.
     3. Denaturation is the process of rebuilding protein structures.
     4. An amino acid chain has an amino group at one end and a carboxyl group at the other end.
4. Which of the following linkages are incorrect?
   * 1. In a nucleotide, a nitrogenous base links covalently to a 1-carbon sugar.
     2. A glycosidic bond is formed between a 1-carbon and a 4-carbon.
     3. The two possible arrangements of the –OH group for a glucose molecule occurs on carbon 4.
     4. In an amino acid, a carboxyl group is attached to a central carbon atom.
5. Why can polysaccharides attract water, but not dissolve in them?
   * 1. Because they are huge molecules.
     2. Because they are very hydrophobic.
     3. Because they cannot form any more bonds.
     4. Because they have many polar functional groups attached.

**Compare and Contrast DNA and RNA.**

* DNA contains deoxyribose (OH) as its sugar, while RNA has ribose (H).
* DNA is a double stranded molecule, where each strand runs antiparallel to the other while RNA is a single stranded molecule and is usually short and linear.
* DNA contains thymine, cytosine, adenine and guanine.
* RNA contains uracil, cytosine, adenine and guanine.
* DNA is responsible for the storage of hereditary information.

**Explain the importance of lipids.**

* Provides us with long lasting sources of energy.
* Without phospholipids, our cells would not be able to even exist.
* Waxes allow plants to conserve its water, thus enabling it to survive, and for other animals/ humans to benefit from a health plant.
* Great thermal insulators for animals.
* Yields more energy than carbohydrates, gram for gram.